

**Council of Scientific and Industrial Research  
National Environmental Engineering Research Institute  
Nehru Marg, Nagpur-440 020**

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**TITLE: Expression of interest and pre-indent conference for supply of  
Quadrupole Gas Chromatograph – Mass Spectrometer**

This Institute invites Expression of Interest (EOI) for supply of Quadrupole Gas Chromatograph – Mass Spectrometer. The EOI must reach this Institute latest by **6<sup>th</sup> September 2010**. A Pre-indent Conference has been scheduled to be held at **11:00 hrs** on **08<sup>th</sup> September 2010** in the **Committee Room No. 02** of the Institute. The interested parties may depute their competent technical representatives to make presentation of their product / model(s) and discuss with the Technical Committee on the aspects of utility, technology, feature, literature, design, technical parameters, clientele and other related issues of the equipment. The Technical Committee shall also evaluate the credentials / technical capabilities / financial standings with track record of the companies / vendors attending PIC. The following documents duly signed and stamped must be invariably submitted by the bidders at the time of PIC.

- 1) Technical Compliance statement showing compliance of offered specifications with tentative specifications given in the EOI Notice.
- 2) Deviations, if any, in the offered technical specifications with the reasons / justifications for deviations.
- 3) Printed technical literature in support of the offered specifications.

Technically competent and sound representative should be authorized for attending Pre Indent Conference.

**The tentative specifications of the Quadrupole Gas Chromatograph – Mass Spectrometer are as follows:**

Sr. No	Item	Specifications
<b>MASS SPECTROMETER</b>		
1	<b>Analyzer</b>	
	Type	Quadrupole
	Mass range	1000 Da or better
	Mass resolution	Unit mass throughout the mass range

	Mass Stability	0.1 Da / 48 Hrs
2	<b>Ion source</b>	EI, PCI, NCI
	Mode	Full Scan, Selected Ion Monitoring (SIM),
	Ionization Energy	100 eV or better
	Ionization Current	250 $\mu$ A or better
	Ion Source Temp	300 °C or more
3	<b>Detector</b>	Replaceable electron multiplier with conversion dynode / Photo Multiplier Tube (PMT)
	Dynamic range	10 <sup>6</sup> or better
4	<b>EI Scan Sensitivity PCI Scan Sensitivity NCI Scan Sensitivity</b>	S/N > 100:1 for 1 pg Octafluoronaphthalene m/z 272.0 S/N > 150:1 for 100 pg Benzophenone m/z 183.1 S/N > 600:1 for 10 pg Octafluoronaphthalene m/z 272.0
5	<b>Scan speed</b>	10000 Da / sec or better
6	<b>Vacuum system</b>	
	Pump	Maintenance free, Air cooled Turbomolecular Pump with flow rate greater than 200 L/sec with suitable backing / fore pump
7	<b>Gas chromatograph interface temperature</b>	325 °C or more
8	<b>Software</b>	Compatible software to control GC-MS system
		Auto tuning
		Automatic adjustable retention time
		Data processing: Raw data processing, mass analyzing, data handling and storage, report generation, calibration, result and printing.
		Spectral database: The National Institute of Standards and Technology (NIST) Mass Spectral Search Program with the NIST MS Library
<b>Sr. No</b>	<b>Item</b>	<b>Specifications</b>
Page 1/2		
<b>GAS CHROMATOGRAPH</b>		
1	<b>Oven</b>	Temperature 5 °C above ambient to 450 °C with 1°C increment
		Column overheat protection maximum upto 450 °C
		Temperature Ramp: 10 ramps or more, settable from 1 °C to 120 °C per minute.

		Cool down temperature 450 °C to 50 °C in 5 minutes or less
2	<b>Injection port</b>	Temperature 50 °C to 400 °C in 1 °C increments
		Split/split less injector
		Split ratio easily adjustable for a wide range of analysis conditions
		Programmable pneumatic control / Automatic Flow control
		Suitable for 100 to 530 µm capillary column's ID
3	<b>Detectors FID</b>	Operating temperature: 100 °C to 450 °C in 1 °C increments
		Dynamic range : 10 <sup>6</sup>
		Minimum detectable quantity < 3 x 10 <sup>-12</sup> g C/sec nonane at a S/N = 2 to 1
		Auto ignition
4	<b>Auto Sampler</b>	80 or more vials
5	<b>Complete Installation and Test kit</b>	
6	<b>Operating and service manual</b>	
7	<b>Provision for additional injector port facility</b>	
8	<b>Operating voltage: 230 V AC / 50 Hz</b>	
<b>SPECIFICATION FOR DATA STATION</b>		
<b>Data Station</b>		Latest personal computer system with LCD/TFT Monitor, suitable for Q-GCMS and its data system with latest laser printer.
<b>Operating system</b>		Windows XP / 2000 / NT

Interested parties may submit EOI address to Director , NEERI , Nagpur-440020 regarding the supply of **Quadrupole Gas Chromatograph – Mass Spectrometer** by Fax on 0712-2249992 / Telefax: 0712-2249746 and/or email on [st\\_pur@neeri.res.in](mailto:st_pur@neeri.res.in) as mentioned in the pointer advertisement in News Papers, TOI, Mumbai dated 30.08.2010..

**Date: 27.08.2010**

**Stores and Purchase Officer  
NEERI, Nagpur**